## REMARKS

No claims are amended, no claims are canceled, and no claims are added; as a result, claims 1-21 are now pending in this application.

### §102 Rejection of the Claims

*Applicable Law*

Anticipation requires the disclosure in a single prior art reference of each element of the claim under consideration. *In re Dillon* 919 F.2d 688, 16 USPQ 2d 1897, 1908 (Fed. Cir. 1990) (en banc), cert. denied, 500 U.S. 904 (1991). It is not enough, however, that the prior art reference discloses all the claimed elements in isolation. Rather, "[a]nticipation requires the presence in a single prior reference disclosure of each and every element of the claimed invention, *arranged as in the claim.*" *Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 221 USPQ 481, 485 (Fed. Cir. 1984) (citing *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 220 USPQ 193 (Fed. Cir. 1983)) (emphasis added). "The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989); MPEP § 2131.

"For a prior art reference to anticipate a claim, the reference must disclose each and every element of the claim with sufficient clarity to prove its existence in the prior art . . . Although this disclosure requirement presupposes the knowledge of one skilled in the art of the claimed invention, that presumed knowledge does not grant a license to read into the prior art reference teachings that are not there." *Motorola, Inc. v. Interdigital Tech. Corp.*, 43 USPQ2d 1481, 1490 (Fed. Cir. 1997).

To serve as an anticipation when a reference is silent about the asserted inherent characteristic, the gap in the reference may be filled with recourse to extrinsic evidence. But, such evidence must make clear that "the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill." *Continental Can Co. v. Monsanto Co.*, 20 USPQ2d 1746, 1749 (Fed. Cir. 1991).

*Claims 15 and 17-20*

Claims 15 and 17-20 were rejected under 35 U.S.C. § 102(b) as being anticipated by Uchimura et al. (U.S. 4,622480). Applicant respectfully traverses this rejection of claims 15 and 17-20.

Applicant maintains each of Applicant's previously submitted arguments to this same rejection of claims 15 and 17-20 based on Uchimura et al. The maintained arguments were submitted in a response mailed October 28, 2005, the response in reply to a previous Office Action, the previous Office Action having been mailed July 28, 2005 in this application.

Applicant's previous response stated the following:

> *Elements recited in independent claims 1, 15, and 16 are missing from Uchimura et al.*
>
> Claim 1 recites, "a reference current source to provide a substantially noise free differential current signal; and a detector coupled to one or two power supplies, the detector to receive the substantially noise free differential current signal." Claim 15 recites, "producing a substantially noise free current signal," and further, "processing the substantially noise free current signal and the one or two power supply signals to detect a noise signal in the one or two power supply signals." Claim 16 recites, "receiving a substantially noise free current signal," and further, "processing the substantially noise free current signal and the one or two power supply signals to detect a noise signal in the one or two power supply signals."
>
> The Office Action relies on Figure 7 of Uchimura et al. as disclosing these elements. Applicant respectfully disagrees. As shown in FIG. 7 of Uchimura et al., the Noise Detector 73 receives a $V_{BIN}$ signal from the current regulation bias circuit 74. The $V_{BIN}$ signal is described in Uchimura et al. at column 8, lines 41-43 which states, "Therefore, a voltage $V_{BIN}$ corresponding to a variation in the power supply voltage appears at an output 79 of the regulation bias circuit 74." Thus, Uchimura et al. describes applying a voltage corresponding to a variation in the power supply voltage to a noise detector, but fails to disclose a substantially noise free differential current signal, and fails to disclose receiving and processing a substantially noise free differential current signal as recited in claims 1, 15, and 16 as quoted above. Thus, Uchimura et al. fails to disclose all of the elements recited in claims 1, 15, and 16.

> *Elements recited in dependent claims 17-21 are missing from Uchimura et al.*
>
> Claims 17-20 depend from claim 15, and therefore include all of the elements recited in claim 15. Further, new claim 21 depends from claim 1, and includes all of the elements recited in claim 1. For reasons analogous to those stated above with regards to claims 1 and 15, Uchimura et al. fails to disclosure all of the elements included in claims 17-21.
>
> For at least the reasons stated above, Applicant submits that the Office Action fails to state a *prima facie* case of anticipation with respect to claims 1 and 15-20. Therefore, Applicant respectfully requests withdrawal of the rejections of claims 1 and 15-20, and reconsideration and allowance of all claims.

Applicant maintains that these arguments show that claims 15 and 17-20 include elements not taught by Uchimura et al. and so claims 15 and 17-20 are not anticipated by Uchimura et al.

In response to these arguments, the currently pending Office Action on pages 4-5 states,

> Regarding claims 15 and 17-20 as being anticipated by Uchimura et al. (USP 4,622,480), applicant argues that Uchimura et al. fails to disclose a noise free current signal is not persuasive. Column 8 lines 35 states that the current flows through transistor 90 is constant irrespectively of variation in the power supply. Therefore, the limitation of noise free current signal is met.

However, claim 15 as noted above, recites,

> producing a substantially noise free current signal.

Further, as noted above, claim 15 also recites,

> processing the substantially noise free current signal and the one or two power supply signals to detect a noise signal in the one or two power supply signals.

The portion of Uchimura et al. cited by the Office Action, namely column 8, line 35, fails to teach the elements recited in claim 15. Uchimura et al. states,[1]

[1] See Uchimura et al. at column 8, lines 26-43.

> FIG. 8 shows a detailed arrangement of the current regulation bias circuit. This circuit comprises MOS transistors 90 to 93 which are operated in the saturation region. The reference voltage $V_{REF}$ from an input 75 applied to the gate of the MOS transistor 91 is stable with respect to the ground potential irrespective of variations in the power supply voltages $V_{DD}$ and $V_{SS}$. The gate-source voltage Vgs of the MOS transistor 91 is kept constant, **so that the currents flowing through the MOS transistors 90 and 91 are kept constant irrespective of variations in the power supply voltage $V_{DD}$.** When the power supply voltage $V_{DD}$ is changed, the drain voltage of the MOS transistor 91 is changed together with the power supply voltage $V_{DD}$ so as to keep the gate-source voltage Vgs of the MOS transistor 90 constant. Therefore, a voltage $V_{BIN}$ corresponding to a variation in the power supply voltage appears at an output 79 of the regulation bias circuit 74. (Emphasis added)

Thus, Uchimura et al. discloses that constant currents flow through transistors 90 and 91. A careful inspection of Fig. 8 in Mullgrav Jr. shows that the transistors 90 and 91 are connected in series between voltage supply $V_{DD}$ and ground. Therefore, the constant currents referred to in Uchimura et al. and in the Office Action would be the currents flowing from voltage supply $V_{DD}$ through the source/drains of transistors 90 and 91 and to then to ground. However, this is not the current that may be present at output 79, wherein Uchimura et al. clearly discloses that "a voltage $V_{BIN}$ corresponding to a variation in the power supply voltage appears at an output 79 of the regulation bias circuit 74." Thus, there is no teaching in Uchimura et al. that output 79 of Uchimura et la. provides a substantially noise free current signal, as recited in claim 15.

Further, a disclosure of providing a "constant current" somewhere in a circuit fails to teach "providing a substantially noise free current signal," as recited in claim 15, because as recited in claim 15, the substantially noise free current signal of claim 15 is processed to detect a noise signal. Since the "constant currents" of Uchimura et al. only flow through transistors 90 and 91, there is no teaching in Uchimura et al. of this constant current being processed to detect a noise signal in one of the power supplies.

Still further, Applicant does not admit that a constant current, as disclosed in Uchimura et al., is a "substantially noise free current signal," as recited in claim 15. Noise may exist on a power supply line, wherein the power supply is intended to be a "constant voltage." Therefore, a constant voltage is not necessarily a noise free signal. In a similar manner, noise may exist

where there is a constant current, and so a recitation of a "constant current" does not teach a substantially noise free current signal, as recited in claim 15.

For at least the reasons stated above, including the arguments related to claims 15 and 17-20 submitted in Applicant's previously submitted response as quoted above, The Office Action fails to sate a *prima facie* case of anticipation with respect to claims 15 and 17-20.

Applicant respectfully requests withdrawal of the rejection, and reconsideration and allowance of claims 15 and 17-20.

*Claims 1, 16, 21*

Claims 1, 16, and 21 were rejected under 35 U.S.C. § 102(e) as being anticipated by Mullgrav, Jr. (U.S. 2003/0085765). Applicant respectfully traverses this rejection of claims 1, 16, and 21.

*Mullgrav Jr. fails to anticipate claims 1, 16, and 21 because Mullgrav Jr. fails to teach each of the elements included in these claims.*

Mullgrav Jr. fails to teach each of the elements recited in each of claims 1, 16, and 21. Therefore, claims 1, 16, and 21 are not anticipated by Mullgrav Jr.

For example, claim 1 recites, "a reference current source to provide a substantially noise free differential current signal." In an attempt to supply these elements, the Office Action on page 3 states,

> Figure 8 shows a circuit comprising a reference current source (120) to provide a substantially noise free differential current signal (the filtering function 120 provides a clean different current signal 152' and 152").

However, these statements are not supported by the disclosure of Mullgrav Jr. Mullgrav Jr. merely discloses,[2] "A charge pump/filter 120 is substituted for the circuit control 12 of FIG. 6 and lines 152'/152" replace lines 52'/52"." There is no disclosure in Mullgrav Jr. that charge pump/filter 120 is a reference current source, or that the charge pump/filter 120 provides a substantially noise free differential current signal, as recited in claim 1. In fact, there are no

[2] See Mullgrav Jr. at paragraph [0080]

drawings, and there is no additonal description in Mullgrav Jr. regarding the circuitry included in the charge pump/filter 120 in Fig. 8 of Mullgrav Jr. Thus, the statements in the Office Action as quoted above are not supported by the disclosure in Mullgrav Jr., and so the Office Action fails to show how Mullgrav Jr. teaches the elements recited in claim 1 as quoted above.

While Applicant realizes that anticipation presupposes the knowledge of one skilled in the art of the claimed invention, the Office Action has not provided sufficient evidence to show that the missing descriptive matter, as recited in claim 1, is **necessarily** present in the thing described in Mullgrav Jr. and that it would be so recognized by persons of ordinary skill. Without such evidence, the Office Action fails to state a *prima facie* case of anticipation with respect to claim 1.

In another example of elements not taught in Mullgrav Jr., claim 16 recites,

> receiving a substantially noise free current signal;
> receiving one or two power supply signals;
> **processing the substantially noise free current signal** and the one or two power supply signals **to detect a noise signal** in the one or two power supply signals

Thus, claim 16 includes receiving a substantially noise free current signal, and processing the substantially noise free current signal to detect a noise signal in the one or two power supply signals. In contrast, Mullgrav Jr. discloses,[3]

> The PSNC 17' has a power input line 68 connected to line 63 to line 60 to the power output terminal of the power supply voltage VDD. A return path ground connection of the amplifier 17 to the power supply is made via line 67' to line 67. The amplifier 17 has an output lines 71'/71" which supply a pair of inverted noise frequency INS signals In/Ip (one hundred-eighty degrees (180.degree.) out of phase) to the output signals of the circuit control 12 on lines 52'/52" therefrom. The adjusted signals on lines 71'/71" provide plus/minus (+/-) adjustments to the signals on lines 52'/52" supplied to the two signal inputs 81'/81" of the NSC 11. The signals In/Ip are one hundred-eighty degrees (180.degree.) out of phase with the noise signal NS. The result is a reduction of the noise in the compensated output signal COS on the output line 9.

Thus, Mullgrav Jr. teaches an amplifier 17 having a power line 68 as an input, and lines 71'/71" as **output lines** to supply a pair of inverted noise frequency INS signals In/Ip. However,

[3] See Mullgrav Jr. at paragraph [0057]

there is no disclosure in Mullgrav Jr. of receiving a substantially noise free current signal, as recited in claim 16. The two signals In/Ip discussed in relation to amplifier 17 are **outputs** from the amplifier 17, and thus are not used in detecting the noise signal. Mullgrav Jr. detects a noise signals on the voltage supply merely based on the input received from input line 68, which is connected to voltage supply VDD, wherein Mullgrav Jr. recites,[4]

> For example when circuit 17' senses an **instantaneous noise induced decrease in the voltage VDD on power supply input line 68**, it provides at its outputs the In/Ip signals on lines 71'/71" (VFAST/VSLOW in FIG. 7A) which change with an opposite polarity to the noise NS on line 68 from the power supply VDD.

Thus, the amplifier circuit 17 in Mullgrav Jr. detects noise induced by a decrease in the voltage VDD on power supply input line 68, but fails to teach "processing the substantially noise free current signal and the one or two power supply signals to detect a noise signal," as recited in claim 16. Further, since the amplifier circuit 17 only receives the voltage from power supply VDD, the description in Mullgrav Jr. fails to disclosure amplifier circuit 17 receiving a substantially noise free current signal, as recited in claim 16.

Because the Office Action fails to show how Mullgrav Jr. teaches each of the elements included in claim 16, the Office Action fails to state a *prima facie* case of anticipation with respect to claim 16.

In a further example of elements not taught by Mullgrav Jr., claim 21 recites, "wherein the reference current source comprises a controllable current source." The Office Action fails to point out where in Mullgrav Jr. these elements are taught. Instead, the Office Action on page 3 states, "Regarding claim 21, the charge pump/filter is **inherently** having a controllable current source." (Emphasis added). However, the Office Action fails to provide any extrinsic evidence that to make clear that the missing descriptive matter is **necessarily present** in the thing described in Mullgrav Jr., and that it would be so recognized by persons of ordinary skill. By failing to meet these requirements, the Office Action fails to state a *prima facie* case of anticipation with respect to claim 21.

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[4] See Mullgrav Jr. at paragraph [0059]

Further, claim 21 depends from claim 1, and therefore includes all of the elements recited in claim 1. For at least the reasons stated above with respect to claim 1, the Office Action fails to show how Mullgrav Jr. teaches all of the elements included in claim 21, and so again fails to state a *prima facie* case of anticipation with respect to claim 21.

For at least the reasons stated above, Applicant respectfully requests withdrawal of the rejection, and reconsideration and allowance of claims 1, 16, and 21.

## §*103 Rejection of the Claims*

*Applicable Law*

The Examiner has the burden under 35 U.S.C. § 103 to establish a *prima facie* case of obviousness. *In re Fine*, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). To do that the Examiner must show that some objective teaching in the prior art or some knowledge generally available to one of ordinary skill in the art would lead an individual to combine the relevant teaching of the references. *Id.*

The *Fine* court stated that:

> Obviousness is tested by "what the combined teaching of the references would have suggested to those of ordinary skill in the art." *In re Keller*, 642 F.2d 413, 425, 208 USPQ 871, 878 (CCPA 1981)). But it "cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination." *ACS Hosp. Sys.*, 732 F.2d at 1577, 221 USPQ at 933. And "teachings of references can be combined *only* if there is some suggestion or incentive to do so." *Id.* (emphasis in original).

The M.P.E.P. adopts this line of reasoning, stating that

> In order for the Examiner to establish a *prima facie* case of obviousness, three base criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, **the prior art reference (or references when combined) must teach or suggest all the claim limitations.** The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *M.P.E.P.* § 2142 (citing *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed.Cir. 1991)). (Emphasis added).

Claims 5-14

Claims 5-14 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Mullgrav Jr. (U.S. 2003/0085765). Applicant respectfully traverses this rejection of claims 5-14.

Mullgrav Jr. fails to teach or suggest each of the elements included in claims 5-14. For example, claim 5 recites,

> a plurality of reference current sources formed on a substrate, each of the **plurality of reference current sources to provide a substantially noise free differential current signal**; and
>
> a plurality of detectors formed on the substrate, each of the plurality of detectors coupled to one or two power supplies, **each of the plurality of detectors to receive the substantially noise free differential current signal and to detect a noise signal on the one or two power supplies** and to generate a noise detection signal to indicate detection of the noise signal.
> (Emphasis added)

Thus, claim 5 includes a plurality of reference currents sources to provide a substantially noise free differential current signal, and further, a plurality of detectors to receive the substantially noise free differential current signal. For reasons analogous to those stated above with regards to claims 1 and 16, Applicant believes they have established that these elements, as quoted above from claim 5, are not taught or suggested by Mullgrav Jr.

Since Mullgrav Jr. fails to teach or suggest all of the elements in claim 5, and since the Office Action fails to cite any additonal documents that teach or suggest the elements as recited in claim 5 and missing from Mullgrav Jr., The Office Action fails to state a *prima facie* case of obviousness with respect to claim 5.

Claims 6-14 depend from claim 5, and therefore included all of the elements recited in claim 5. Since Mullgrav Jr. fails to teach or suggest all of the elements recited in claim 5, Mullgrav Jr. also fails to teach or suggest all of the elements included in claims 6-14. Thus, the Office Action fails to state a *prima facie* case of obviousness with respect to claims 6-14.

Further, claims 6-14 include additional elements also not taught or suggested by Mullgrav Jr. The Office Action fails to point out where in Mullgrav Jr. these elements as recited in claims 6-14 are taught or suggested in Mullgrav Jr. Instead, on page 4 the Office Action

states, "Regarding claims 6-14, the limitations recited therein are seen to be inherently present in Mullgrav, JR."

However, the Office Action has provided no evidence, nor cited any additional documents, the show that these elements are inherently present in Mullgrav Jr. In addition, the Office Action fails to cite another document or documents that teach or suggest the claim elements included in claims 5-14 and that are missing from Mullgrav Jr. Therefore, Applicant submits that the rejection relies on references or other evidence that are not in the record. Applicant respectfully requests that the Examiner provide additional references supporting the rejections or an affidavit describing how the missing elements are present in the prior art. If the Examiner cannot cite a reference or provide an affidavit, Applicant respectfully requests withdrawal of the rejection, and reconsideration and allowance of claims 6-14.

For at least the reasons stated above, Applicant respectfully requests withdrawal of the rejection, and reconsideration and allowance of claims 5-14.

*Allowed Claims*

The Office Action Summary at checkbox 5 indicates that claims 2-4 and 22 are allowed. Applicant acknowledges the allowance of claims 2-4 and 22.

*Reservation of Rights*

Applicant does not admit that references cited under 35 U.S.C. §§ 102(a), 102(e), 103/102(a), or 103/102(e) are prior art, and reserves the right to swear behind them at a later date. Arguments presented to distinguish such references should not be construed as admissions that the references are prior art.

*Conclusion*

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney ((612) 371-2132) to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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